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SIZE OF INITIAL PAYMENT REQUIRED TO PERMIT PURCHASE OF A FARM IN A GIVEN TIME.¹

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In a former study,³ devoted mainly to pre-war agriculture, the author pointed out that it was extremely difficult for farms to pay for themselves in a reasonable length of time. Even if sufficient credit were available to permit the purchase of a farm without an initial payment of considerable size, in no area that had been surveyed could the farms be paid for without reducing the expenditures for family use to a penurious sum. It was further concluded "that only they who are well-fitted by training or experience, and who in addition possess somewhat more business ability than the 'average' farm operator, should expect to earn a living on the farm and at the same time save enough to buy the farm."

Inquiries from several widely scattered parts of the United States asked what part of the farm capital must be paid at the time of purchase in order to enable the operator-purchaser to amortize the farm in a reasonable length of time. Accordingly, the present study was undertaken, but only for the areas that had been included in the previous treatise, although several additional surveys have since been published.

With the prevailing land prices, about the only chance for an ordinary young man who has no capital to acquire ownership of a farm is to inherit one or to "marry" one. A long period of time is required to enable a tenant farmer to save from one third to one half the value of the farm. *It must be remembered, however, that averages may deceive. The misfits and the failures hide the successes and profits of the better adapted.* Any other industry would appear less rosy if measured in terms of the "average," where the failures as well as the successes are included, than if only the survivals are considered. In agricultural pursuits there has been a tendency for

¹ Contribution of the Department of Field Crops, Utah Experiment Station.

² The author is indebted to Delmar C. Tingey for the calculation involved in compiling Tables 1, 2, 3, and 4.

³ Stewart, George, "Can Farms of the United States Pay for Themselves?" In JOURNAL OF FARM ECONOMICS, Vol. II, pp. 177-193.

the misfit to remain, whereas in the more strictly commercial industries they are automatically dropped by insolvency. In spite of this, no one should deceive himself that good farms are easy to obtain unless some capital is at his command.

Table I shows the average capital, the farm income, the prevailing interest rate, the size of necessary payment and the amount of money

TABLE I.—*Average capital, farm income, prevailing interest rate, annual payment necessary to amortize farm in 10, 20, or 30 years, and the money left from farm income for family use.*

Area.	Average Capital.	Farm Income.	Prevailing Interest Rate.	10 Years.		20 Years.		30 Years.	
				Necessary Payment.	Money Left.	Necessary Payment.	Money Left.	Necessary Payment.	Money Left.
<i>North Atlantic States</i>									
New York.....	\$ 5,527	\$ 757	5.6	\$ 737	\$ 20	\$ 466	\$ 291	\$ 385	\$ 372
New Jersey.....	19,165	1,699	5.8	2,580	— 881	1,644	55	1,363	336
Pennsylvania....	10,486	1,313	5.8	1,412	— 99	900	413	746	557
<i>North Central States</i>									
Illinois (Kane Co.)	37,896	2,766	6.0	5,149	— 2383	3,301	— 535	2,753	13
Illinois (West central).....	51,091	3,176	6.0	6,941	— 3765	4,454	— 1278	3,711	— 535
Indiana.....	17,535	1,187	6.2	2,428	— 1241	1,555	— 368	1,302	— 115
Iowa.....	23,193	1,450	5.9	3,136	— 1686	2,006	— 556	1,667	— 217
Michigan.....	11,756	1,068	6.6	1,652	— 584	1,077	— 9	911	157
Minnesota.....	14,636	1,170	6.8	2,065	— 895	1,362	— 192	1,158	12
Nebraska.....	26,646	1,717	7.1	3,814	— 2097	2,539	— 822	2,174	— 457
Ohio.....	5,652	443	6.1	772	— 329	497	— 54	316	27
Wisconsin.....	31,036	1,940	5.8	4,177	— 2237	2,663	— 723	2,208	— 269
<i>South Central States</i>									
Kentucky (Bluegrass).....	37,793	2,576	7.1	5,409	— 2833	3,600	— 1024	3,082	— 506
Kentucky (Southwest).....	17,029	1,208	7.1	2,437	— 1229	1,623	— 415	1,389	— 181
Missouri.....	9,033	822	6.8	1,275	— 453	841	— 19	714	108
West Virginia....	3,255	344	6.4	451	— 107	293	51	247	97
<i>Southern States</i>									
Georgia (Brooks Co.).....	8,992	952	8.7	1,383	— 431	965	— 13	846	106
Georgia (Sumter Co.).....	15,781	1,712	8.7	2,428	— 716	1,693	19	1,502	210
South Carolina...	5,529	404	8.4	839	— 435	580	— 176	511	— 107
Texas.....	16,019	1,457	9.0	2,497	— 1040	1,757	— 300	1,569	— 112
<i>Western States</i>									
Arizona.....	20,706	2,370	9.4	3,283	— 913	2,336	44	2,102	268
Montana.....	27,173	2,185	10.0	4,422	— 2337	3,191	— 1006	2,907	— 722
Oregon.....	22,699	1,322	8.0	3,383	— 2061	2,312	— 990	2,016	— 694
Utah (Provo)....	11,688	1,312	9.0	1,822	— 510	1,281	31	1,144	168
Utah (Six counties).....	11,886	1,135	9.0	1,852	— 717	1,303	— 168	1,163	— 28
Utah (Salt Lake Valley).....	12,296	927	9.0	1,917	— 990	1,347	— 420	1,204	— 277

left from farm income if the farm were amortized in 10, 20 or 30 years at prevailing interest rates. It is shown that in no area surveyed can the farms pay for themselves in 10 years and leave a reasonable amount of money for family use, even as little as \$100 a year. In fact, only one area has any left at all, and this one only \$20 a year.

When the time of payment is lengthened to 20 years, one area has about \$400 annually, another \$300, and a third \$55 above the required annual payment. All other regions still find the total farm income too small to meet the payment on the farm, several lacking in the neighborhood of \$1,000 a year. If 30 years be allowed in which to pay for the farm, twelve of the twenty-six areas have money left over, but only five of them have as much as \$200 a year, only one as much as \$500, and none as much as \$600 for family use.

Table 2 shows the size of initial payment that must be made at the time the farm is purchased when the family uses no money, \$300 a year, and \$600 a year, respectively, from the farm income. When the family is not allowed any expenses whatever from the farm income, only one area can pay for its farms in 10 years, seven in 20 years, and thirteen (just half of them) in 30 years. The size of payment that must be made at the time of purchase varies from nothing to \$27,710 for 10 years, from nothing to \$14,659 for 20 years, and from nothing to \$7,813 for 30 years.

When the family uses \$300 yearly from the farm income, then these figures are correspondingly increased. No area can pay in 10 years, one in 20 years, and only three in 30 years. The initial payments required vary from \$2,115 to \$29,918 for 10 years, from nothing to \$18,000 for 20 years, and from nothing to \$11,493 in 30 years. When 20 years are allowed for payment, thirteen of the twenty-six areas require initial payment in excess of \$5,000 and six others between \$3,000 and \$5,000.

Should the family be permitted to spend as much as \$600 a year from the family farm income, there is no area that can pay for its farms even in 30 years. In order to permit such lavish expenditure, in addition to 30-year mortgages being assumed, large initial payments would have to be made, varying from \$3,275 for New York to \$15,623 for Kane County, Illinois, and \$14,567 for Oregon.

Table III shows the average percentage of the farm capital that must be advanced at the time of purchase in order to enable the operator to pay for the farm. These data really show more than do the actual amounts of money required to be paid, because they show the percentage of the farm value. With no money used for family

TABLE II.—*Size of payment that must be made at time of purchase in order to amortize farm in 10, 20, or 30 years when family uses none, \$300, or \$600 annually from farm income.*

Area.	10 Years.			20 Years.			30 Years.		
	None.	\$300.	\$600.	None.	\$300.	\$600.	None.	\$300.	\$600.
<i>North Atlantic States</i>									
New York.....		\$ 2,115	\$ 4,365		\$ 107	\$ 3,661			\$ 3,275
New Jersey.....	\$ 6,545	8,774	11,003		2,856	6,253			3,712
Pennsylvania....	736	2,964	5,193			2,180			605
<i>North Central States</i>									
Illinois (Kane Co.).....	17,539	19,747	21,955	\$ 6,137	9,578	13,019		\$ 3,950	8,080
Illinois (West central).....	27,710	29,918	32,126	14,659	18,100	21,542	\$ 7,364	11,493	15,623
Indiana.....	9,046	11,233	13,419	4,151	7,535	10,919	1,548	5,588	9,627
Iowa.....	12,468	14,686	16,904	6,428	9,897	13,366	3,018	7,192	11,364
Michigan.....	4,177	6,322	8,468	98	3,374	6,650		1,845	5,716
Minnesota.....	6,342	8,467	10,593	2,064	5,288	8,512		3,640	7,432
Nebraska.....	14,653	16,749	18,846	8,631	11,781	14,931	5,604	9,283	12,961
Ohio.....	2,410	4,607	6,804	614	4,027	7,439		3,716	7,800
Wisconsin.....	16,620	18,848	21,077	8,428	11,924	15,421	3,782	7,999	12,217
<i>South Central States</i>									
Kentucky (Bluegrass)....	19,796	21,892	23,988	10,752	13,902	17,052	6,205	9,884	13,562
Kentucky (Southwest)...	8,588	10,684	12,780	4,357	7,507	10,657	2,219	5,898	9,577
Missouri.....	3,210	5,335	7,461	204	3,429	6,653		2,427	6,218
West Virginia....	773	2,939	5,105		2,763	6,093		2,675	6,628
<i>Southern States</i>									
Georgia (Brooks Co.)...	2,802	4,752	6,703	121	2,917	5,713		2,038	5,190
Georgia (Sumter Co.)..	4,655	6,605	8,555		2,619	5,415		946	4,097
South Carolina...	2,866	4,843	6,819	1,677	4,535	7,393	1,157	4,402	7,647
Texas.....	6,672	8,596	10,521	2,736	5,472	8,209	1,144	4,208	7,273
<i>Western States</i>									
Arizona.....	5,756	7,647	9,539		2,270	4,931		315	3,270
Montana.....	14,361	16,205	18,048	8,565	11,120	13,674	6,750	9,554	12,359
Oregon.....	13,829	15,842	17,855	9,721	12,667	15,613	7,813	11,190	14,567
Utah (Provo)....	3,272	5,196	7,121		2,453	5,354		1,348	4,413
Utah (Six counties).....	4,600	6,524	8,449	1,532	4,269	7,005	286	3,350	6,415
Utah (Salt Lake Valley).....	6,351	8,276	10,200	3,831	6,567	9,303	2,829	5,894	8,958

expenses, the percentages vary from 0 to 60.9 for 10 years, from 0 to 42.8 for 20 years, and from 0 to 34.4 for 30 years. When \$300 is used for living, the percentages vary from 28.3 to 90.3 for 10 years, from 0 to 84.9 for 20 years, and from 0 to 82.2 for 30 years. When \$600 is spent for living expenses, the percentages vary from 15.8 to 203.6 for 30-year payments, some of the farm incomes being so small as to require that in addition to paying outright for the farm a sum

TABLE III.—*Percentage of capital that must be paid at time of purchase in order to amortize farm in 10, 20, or 30 years when family uses none, \$300, or \$600 annually from farm income.*

Area.	Average Capital.	10 Years.			20 Years.			30 Years.		
		None	\$300.	\$600.	None	\$300.	\$600.	None	\$300.	\$600.
<i>North Atlantic States</i>										
New York	\$ 5,527	.....	38.3	79.0	.....	1.9	66.2	.....	.....	59.3
New Jersey	19,165	34.2	45.8	57.4	.....	14.9	33.1	.....	.....	19.4
Pennsylvania	10,486	7.0	28.3	49.5	.....	.....	20.8	.....	.....	5.8
<i>North Central States</i>										
Illinois (Kane Co.) . .	37,896	46.3	52.1	57.9	16.2	25.3	34.4	.....	10.4	21.3
Illinois (West central)	51,091	54.0	58.6	62.9	28.7	35.4	42.2	14.4	22.5	30.6
Indiana	17,535	51.6	64.1	76.5	23.7	43.0	62.3	8.8	31.9	54.9
Iowa	23,193	53.8	63.3	72.9	27.7	42.7	57.6	13.0	31.0	49.0
Michigan	11,756	35.5	53.8	72.0	8.3	28.7	56.6	.....	15.7	48.6
Minnesota	14,636	43.3	57.8	72.4	14.1	36.1	58.2	.....	24.9	50.6
Nebraska	26,646	55.0	62.9	70.7	32.4	44.2	56.0	21.0	34.8	48.6
Ohio	5,652	42.6	81.5	120.3	10.9	71.2	131.6	.....	65.7	138.0
Wisconsin	31,036	53.5	60.7	67.9	27.2	38.4	49.7	12.2	25.8	39.4
<i>South Central States</i>										
Kentucky (Blue- grass)	37,793	52.4	57.9	63.5	28.4	36.8	45.1	16.4	26.2	35.9
Kentucky (South- west)	17,029	50.4	62.7	75.0	25.6	44.1	62.6	13.0	34.6	56.2
Missouri	9,033	35.5	59.1	82.5	2.3	38.0	73.7	.....	26.9	68.8
West Virginia	3,255	23.7	90.3	156.8	.....	84.9	187.2	.....	82.2	203.6
<i>Southern States</i>										
Georgia (Brooks Co.)	8,992	31.2	52.8	74.5	13.5	32.4	63.5	.....	22.7	57.7
Georgia (Sumter Co.)	15,781	29.5	41.9	54.2	.....	16.6	34.3	.....	6.0	26.0
South Carolina	5,529	51.8	87.6	123.3	30.0	82.0	133.7	20.9	79.6	138.3
Texas	16,019	41.6	53.7	65.7	17.1	34.1	51.2	7.1	26.3	45.4
<i>Western States</i>										
Arizona	20,706	27.8	36.9	46.1	.....	11.0	23.8	.....	1.5	15.8
Montana	27,173	52.8	59.6	66.4	31.5	40.9	50.3	24.8	35.2	45.5
Oregon	22,699	60.9	69.8	78.7	42.8	55.8	68.8	34.4	49.3	64.2
Utah (Provo)	11,688	28.0	44.5	60.9	.....	21.0	45.8	.....	11.5	37.8
Utah (Six counties) .	11,886	38.7	54.9	71.1	12.9	35.9	58.9	2.4	28.2	54.0
Utah (Salt Lake Valley)	12,296	51.6	67.3	83.0	31.2	53.4	75.7	23.0	47.9	72.9
Average	18,250	42.1	57.9	75.4	16.3	37.3	63.2	8.1	28.5	57.2

equal to the farm capital be put at interest and this interest added to the total farm income.

If these figures of the twenty-six areas be averaged without taking into account the number of farms in each area, the results are shown in Table IV.

From the above figures it is apparent that men with no capital will find it difficult to purchase farms, even could they secure all the credit

TABLE IV.—*The average percentage of farm capital that must be paid at time of purchase to amortize farm in 10, 20, or 30 years when no money, \$300, or \$600 is used annually for family expenses.*

Time to Amortize Farm.	Amount Used Annually for Family Expenses.		
	None.	\$300.	\$600.
10 years.....	42.1	57.9	75.4
20 years.....	16.3	37.3	63.2
30 years.....	8.1	28.5	57.2

needed. Twenty years represents the best part of a man's lifetime, and \$300 is little enough money to provide a family with clothing, amusement and food that must be purchased, to say nothing of educational, religious or community advantages recognized to be essential to good citizenship and to a reasonable standard of living.

If a family be of any size, and if it take part in social and educational life of the community, \$600 a year will not be a lavish sum of money with which to defray cash expenses. If this amount be used, then 59 per cent of the farm price must be paid at the time of purchase in order to permit its being amortized in 30 years from the farm income. The corresponding figures for 20 and 10 years are 63 and 75 per cent, respectively.